REMARKS/ARGUMENTS

This amendment is respectfully submitted in response to the final Office Action dated February 23, 2005. This amendment follows an April 12, 2005 telephone interview which is summarized below.

I. Introduction

Claims 1-24 are pending. Dependent claims 21-24 have been added. Support for new dependent claims 21-24 can be found on pages 20-21 of the original application and elsewhere in the application.

In the Final Office Action dated Feb 23, 2005 the Examiner rejected claims 1-3, 13-17 and 20 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,487,413 to Suojasto (hereinafter "the Suojasto patent"). Claims 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suojasto in view of U.S. Patent Number 5,659,596 to Dunn (hereinafter "the Dunn patent"). Claims 4-8 stand rejected under 35 U.S.C. §103 as being unpatentable over the Suojasto patent in view of U.S. Patent No. 6, 192,243 to Yang et al. (hereinafter "the Yang et al. Patent"). In addition, the Examiner rejected claims 9-10 and 18 under 35 U.S.C. 103(a) as being unpatentable over the Suojasto patent in view of U.S. Patent No. 6,535,745 to Seraj (hereinafter the "the Seraj patent").

In each of the rejections, the Suojasto patent is the principle reference. As will be discussed below, the Suojasto patent does not disclose numerous features recited in the claims and the additional references fail to make up for these deficiencies. Accordingly, the pending claims are patentable over the applied references when considered alone or in combination.

II. The Present Application and Principal Reference

1. Summary and Discussion of the Present Application

The present application is directed to methods and apparatus for collecting and generating statistics relating to the number, distribution and/or flow of people in a geographic region. The various embodiments described in the present application support services such as measuring the size of a crowd. Another application of the subject matter disclosed by the present application is to measure highway traffic flows and/or detect traffic jams.

In various exemplary embodiments the number and, optionally, information on the type of active wireless devices in an area is collected, e.g., in an automated manner. The active device count may be collected from each of a variety of wireless communication centers. As part of the process, active device count information is mapped, e.g., correlated, to one or more specific targeted geographic areas of interest. In some embodiments the statistical data for a target area is further processed to take into consideration the portion of people that are likely to be utilizing multiple wireless devices.

In accordance with the various exemplary embodiments the number of people present in a region and/or estimates of the flow of people can be generated from the number, e.g., count, of active wireless devices in one or more geographic regions of interest. In some embodiments by analyzing data on the number of active devices over a period of time, information on the movement, e.g., flow of people in a geographic area is generated. Accordingly, the methods disclosed by the present application are well suited for providing traffic flow information, e.g., information on how the number of people or devices in a geographic region varies over time.

The applied references do not teach, disclose or suggest estimating the number of people in a geographic region from the number of active wireless devices in a region or various other features of the claimed inventions of the present

application, such as determining the flow of people through a region based on active device counts.

2. The Suojasto Patent

In contrast to the claims of the present application which are directed to, among other things, estimating the number of people in a region, the Suojasto patent **is directed to estimating the need for capacity for different parts of a communication system** based on stored data generated from location update messages which indicates the number of mobile stations located in an area. (See, Abstract, and Col. 2, lines 39-65).

The Suojasto patent is devoid of any reference to the word "people". There is no mention of generating an estimate of the number of people in an area or of determining anything about the flow of people from device location information. Accordingly, the Suojasto patent in no way anticipates or renders obvious the pending claims.

III. Interview Summary

This interview summary is presented in the format suggested by the Patent Office.

1. **Application Number: 09/933,063**
2. **Name of Applicant: William D. Goodman**
3. **Name of Examiner: Randy Peaches**
4. **Date of Interview: April 12, 2005**
5. **Type of Interview:** Telephonic
6. **Name of Participants:**
   Examiners: Randy Peaches; Charles Appiah
   Applicants' Rep: Michael P. Straub, Reg. No. 36,941
7. **Exhibit(s) Shown:** None
8. **Claims discussed:** Claims 1 and 14
9. **Prior Art Discussed:**

U.S. Patent No. 6,487,413 to Suojasto was discussed.

10. **Proposed Amendments discussed:**

No proposed amendments were discussed.

11. **Discussion of General Thrust of the Principal Arguments**

Applicant's representative noted that various embodiment of the invention deal with **estimating** the number of **people**, e.g., human beings, in an area based on the number of active wireless devices. In various embodiments, the proportion of people who do not use wireless devices could, and in various embodiments is, taken into consideration as part of the estimation process

Applicant's representative argued that **"people" as defined in Webster's dictionary are "human beings"** and are NOT "devices". Applicant's representative further argued that a count of the active mobile devices or any other count of "mobile devices" was not an estimate of "people" although an estimate of the number of people in a geographic region could be generated from a count of the active number of devices in a region. Since "mobile devices" are not people, the various counts of mobile devices cited by the Examiner in no way anticipate or render obvious the claimed inventions.

In an attempt to make the distinction between people and mobile devices clear, Applicant's representative argued that, as discussed in the pending application, some people in a geographic area may not have wireless devices in which case the number people would clearly not be the same as the number of wireless devices. In addition, some individuals might have multiple wireless devices. The number of people in a region can be estimated from the number of active wireless devices in a region. However, it should be appreciated that a **number of people** is not the same thing **as a number of devices**.

With regard to claim 1, Applicant's representative noted that the Examiner had failed to show "estimating the number of people in a geographic region of interest from the number of active wireless devices indicated by the received statistics".

The Examiner took the position that a person was required for an active cell phone call and that this meant there has to be a one to one relationship between mobile devices involved in a call and the number of people in a geographic region. Applicant's representative pointed out that this position was inconsistent with and failed to explain the Examiner's use of passive devices in the count of devices which was used as an estimated number of people when rejecting claim 1.

With respect to claim 14, Applicant's representative pointed out that the report mentioned in col. 14, lines 30-35 of the Suojasto patent is not a report on the "flow of people" and that the "capacity" mentioned in the cited portion refers to communications traffic capacity NOT human traffic. The Examiner seemed to indicate during the interview that telephone calls or communications traffic was the same as human "traffic" as far as he was concerned for purposes of rejecting the claims. Applicant strongly disagrees with this interpretation.

12. **Other Pertinent Matters Discussed:** None

13. **General Results/Outcome of Interview**

The Examiner suggested that Applicant submit a written response following the conclusion of the telephone interview and Applicant's representative agreed to do so.

III. The Pending Claims Are Patentable

Random House Webster's College Dictionary (excerpt attached as an Appendix) provides the following definition for "people" - **human beings, as distinguished from animals or other beings.**

As discussed during the telephone interview "people" are **human beings** NOT **devices.** Accordingly, an estimate of a number of devices is not the same as an estimate of a number of **people.** The principle reference used to reject each of the pending claims is the Suojasto patent which does not mention the word "**people**" let alone estimating the number of **people** in a geographic region based on the number of active wireless devices in a cell. In addition, the Suojasto patent fails to discuss or describe generating information about the flow of **people** based on changes in the number of active wireless devices in a geographic region. The secondary references applied by the Examiner do not make up for these significant deficiencies. Furthermore, **the Examiner does not contend that the secondary references disclose the elements Applicant asserts are missing from the Suojasto patent.** Accordingly, in the discussion which follows, Applicant will restrict the discussion to the Suojasto patent with the understanding that the secondary references do not show the elements identified and highlighted by Applicant.

Applicant will now address the rejection of the various claims in detail.

1. Claim 1-10 and 13 Are Patentable

In rejecting claim 1 the Examiner states:

> estimating the number said mobile stations, which reads on claimed "people", both passive and active mobile stations (see column 2 lines 28-39, 61-65), in a geographical area, which reads on claimed "region", if interest from the received statistics on the number of said active mobile stations. (Office Action page 2).

Applicant respectfully submits that **mobile stations are NOT "people". Accordingly, estimating the number of passive and active mobile stations does not in any way anticipate the claimed subject matter.**

In the Response to Arguments section of the Office Action the Examiner states:

> The **Applicant's primary argument is based on the premise that the estimation of number of people within an environment cannot truly be based on the number of mobile devices** within that area, whether they are active or passive. (Office Action page 14, bold added for emphasis)

The Examiner's statement of Applicant's argument is clearly in error. Applicant's position is that it is possible and, in some cases beneficial to estimate the number of people in a geographic area based on the number of mobile communications devices, e.g., active devices, in an area. This is taught by the pending application. **Applicant's position is that the applied reference does NOT show this being done.** The word people does not appear in the Suojasto patent. As noted above, an estimate of a number of active and passive devices in a region is not an estimate of the number of **people** in the region.

The Examiner in the response to arguments goes on to state:

> However, the Examiner concludes that it is inherent that the association of "people" with the number of mobile devices within a given area is clearly justified by the fact that the cited prior art teaches of providing information on "active" mobile devices. (Office Action Page 14).

Applicant is claiming an estimating step in claim 1 and this step is not shown in the applied references and is not "inherent". There is no need to generate an estimate of the number of people in a geographic region in the applied reference or anything to suggest such an estimate is made.

The "inherency" assertion by the Examiner seems to be based on the Examiner's personal knowledge which is not of record. Should the Examiner persist in the rejection of claim 1, it is requested that the Examiner respond to each and every one of Applicant's requests for clarification set forth below and set forth any personal knowledge upon which a rejection is based in an affidavit.

Claim 1 and claims 2-10 and 13 which depend therefrom are patentable because claim 1 recites:

> A method of processing active wireless device statistics, the method comprising:
> **receiving statistics indicating the number of active wireless devices** in at least one communications cell;
> **estimating the number of people in a geographic region of interest *from the number of active wireless* devices indicated by the received statistics.**

While the Examiner rejects claim 1 under 35 U.S.C. §102, the Examiner has failed to identify anywhere in the Suojasto patent where a number of **people** is described let alone estimating a number of people from statistics on the number of active wireless devices. Accordingly, the anticipation rejection should be withdrawn.

The applied references **do not perform, teach or suggest the step of "estimating the *number of people* in a geographic region of interest from the received statistics on the number of active wireless devices" recited in claim 1.** Accordingly, the rejection of claim 1 and the claims 2-10 and 13 which depend there from should be withdrawn.

2. Claims 11-12 Are Patentable

Claim 11 is patentable for similar reasons that claim 1 is patentable. Claim 11 is patentable because it recites "estimating the number of people in a geographic region ... from ... the number of active wireless devices". Claim 11 is patentable for the additional reason that it recites as a feature:

> **predicting characteristics of the people in the geographic region of interest from the type and number of active wireless devices in the geographic region of interest.**

This feature is not shown in the combination of applied references.

In rejecting claim 11, the Examiner acknowledges that the Suojasto patent fails to show this feature stating:

> Suojasto fails to clearly disclose **wherein predicting characteristics of the devices** in the geographic region of interest from the type of devices in the geographic region of interest. (Office Action page 7, bold and underlining added)

Applicant respectfully submits that while it agrees that the Suojasto patent fails to disclose the claimed feature, it seems that the Examiner is confused regarding the claimed feature. The claim feature addresses predicting "**characteristics of the people**" from the **type of devices.** As discussed above **PEOPLE are NOT devices.**

The Examiner in rejecting claim 11, goes on to state:

> Dunn teaches in column 9 lines 38-45 where the local service office is supplied with remote subscribers unit's (RSU) identification code or specification codes identify the type of device being used, which reads on claim "predicting characteristics of people from the type of device in the geographic region of interest". (Office Action page 7)

Applicant respectfully submits that the Examiner has indicated that the Dunn patent describes providing device type information. In rejecting claim 11, the Examiner has not cited anything in Dunn which describes "**predicting characteristics of people" from the type of active wireless devices.** Applicant respectfully submits that the user identification code mentioned in the Dunn patent is not a "type of device" and therefore can not be used to support a rejection of claim 11.

Since the applied references do not show the above indicated features of claim 11, the rejection of claim 11 should be withdrawn. If the Examiner persists in the rejection of claim 11, it is respectfully requested that the Examiner respond to Applicant's request for clarification below and indicate among other things, what

"characteristic" of a human being Dunn describes being predicated from a type of device. In addition what is the type of device used to make the predication?

3. Claims 14-16 Are Patentable

As discussed during the interview, communications capacity, is not the same as the **flow of people.**

In rejecting claim 14 the Examiner states:

> ... Suojasto teaches ... generating a report, as disclosed in column 4 lines 30-35, **that disclose the traffic capacity** based on the said active and passive mobile stations collected statistics. (Office Action page 4, bold added for emphasis)

The Examiner relies on column 4, lines 30-35 of the Suojasto patent, which refers to communications capacity to reject the claim. This portion of the Suojasto patent states:

> ... The most significant advantage of the method of the invention is thus that it gives a more accurate picture of the number of phones located in the predetermined geographical area of interest, whereby potential bottlenecks concerning **the capacity of the system** can be found more easily than previously ...

Claim 14, is patentable because it recites:

> A method comprising:
> collecting active wireless device statistics from a communications cell over a period of time; and
> detecting changes in the collected active wireless device statistics; and
> **generating a report including estimating the *flow of people through said geographic area* based on detected changes in the collected active wireless device statistics.**

As discussed above, the Suojasto patent does not mention people let alone a **report generation step which includes estimating the flow of people in a geographic region**. The capacity and potential bottlenecks discussed in the

cited portion of the application are system (communications) capacity issues and do **NOT** involve estimating the flow of **people**. Accordingly claim 14 is clearly patentable over the Suojasto patent. The other references cited by the Examiner do not talk about reports about the flow of people. Accordingly, the references applied by the Examiner, when take alone or in combination in no way anticipate or render obvious claim 14 or claims 15-16 which depend form claim 14.

4. **Claims 17-19 Are Patentable**

Independent claim 17 is patentable for the same general reasons that claim 1 is patentable. In particular, claim 17 is patentable because none of the applied references, alone or in combination, teach, disclose or suggest:

> An apparatus for estimating the number of people in a geographic region, the apparatus comprising:
> an interface for receiving **an active wireless device count from at least one communications cell;**
> means for **estimating based on the received active wireless device count the number of people in a geographic region** including at least a portion of said communication cell.

Claims 18-19 depend from claim 17 and are patentable for the same reasons claim 17 is patentable.

5. **Claim 20 is Patentable**

Claim 20 is patentable for the same general reason that claim 1 is patentable. In particular Claim 20 is patentable because it recites:

> A wireless communications system, the system comprising:
> a plurality of wireless communications centers, each wireless communications center collecting statistics on the number of active wireless devices being serviced at a point in time;
> a processing center coupled to the plurality of wireless communications centers, **the processing center receiving from said wireless communication centers the statistics on the**

number of active wireless devices being serviced, the processing center including:

means for estimating the number of people in a geographic region of interest from the number of active wireless devices being serviced by said wireless communications centers.

6. New Dependent Claims 21-24 Are Patentable

New claims 21-24 are patentable for the same reasons that claim 1 is patentable.

However, several of these claims add features which are directed to specific features that relate to estimating the number of people which are not disclosed or suggested by the applied references. Accordingly, these claims are patentable for the features they recite in addition to the reasons claim 1 is patentable.

IV. Request for Clarification

Applicant's representative has, throughout the prosecution of this case attempted to take a reasonable position with regard to the meaning of the claim language and what the applied references disclose. The Examiner's failure to respond in detail to the questions raised in Applicant's original Request for Clarification submitted in the first amendment has made it necessary for Applicant to repeat several of the questions raised therein. In addition, the Examiner has failed to clearly identify numerous claim elements in the reference choosing to refer to "devices" instead of "people" when rejecting various claims.

To give Applicant a full and fair opportunity to respond to any repeated rejections, and make a clear record for purposes of Appeal should the Examiner decide to maintain any of the outstanding rejections, **it is respectfully requested that the Examiner respond to each of the following questions on an individual question by question basis.** The Examiner's answers will form a clear written record

setting forth the Examiner's position regarding the claim elements, their meaning and what in the applied references corresponds to the recited claim elements. Applicant notes that with regard to the anticipation rejections, the Examiner is required to show that the claimed feature (e.g., method step), is present in the reference or the rejection should be withdrawn.

In particular **it is requested that the Examiner answer/respond to the following questions and requests for information:**

1) **Please indicate for the record if the Examiner is asserting that "devices" are "people".** Also, please indicate if the Examiner disagrees with Applicant's assertion that "people" are "human beings".

2) Please identify what precisely the Examiner contends in the Suojasto patent corresponds to "the number of active wireless devices" recited, e.g., in claim 1, and "the number of people in a geographic region". (Please note that if the Examiner indicates that "devices" are not "people", in response to item (1) above, estimating a number of devices is not the same as estimating a number of people.)

3) If the Examiner asserts that estimating a "number of people in a geographic region" is the same as estimating a number of devices in a geographic region please cite the basis for this position in one of the applied references. If the Examiner's position is based on personal knowledge please provide an affidavit setting forth the personal knowledge upon which the Examiner's position is based.

4) Please identify where estimating a value identified in the applied reference as corresponding to "the number of people in a geographic region" is described as being estimated from the value identified as "the number of active wireless devices".

5) If the Examiner feels that Suojato patent describes some relationship between the number of mobile stations in a region and the number of people in a

region does the Examiner contend that the number of people equals the number of active mobile stations, the number of passive mobile stations, or the total of active and passive stations? Where does the Suojasto patent provide support for the Examiner's position? Alternatively if the Examiner does not believe the Suojato patent discloses one of these relationships, what relationship between the number of devices in a region and the number of people in the region does the Suojasto patent show?

6) If the Examiner persists in the rejection of claim 11, what specific "characteristic of the people" does the Examiner contend is predicted from the type of wireless device being used and what "type of device" is described. Applicants note that using a user identification code is not the same as determining user characteristics from "the type of an active wireless device". The user identification code is clearly indicated to be something different from the "type of device" in the applied Dunn patent.

7) If the Examiner persists in the rejection of claim 14, it is requested that the Examiner clearly indicate what the Examiner contends corresponds to a "**flow of people**" in the applied reference. Where is a "flow" described and what is it that is described "flowing". Does the Examiner contend that a flow of cellular signals, e.g., as part of a voice call is the same as a flow of **people**?

8) If the Examiner rejects any of the newly added dependent claims 21-24 it is requested that the Examiner clearly identify where each and every element of these claims is found in an applied reference. Please be sufficiently clear that Applicant can identify for each recited element in the claim the precise element in the applied reference or references the Examiner contends matches the recited claim element.

9) Applicants do not concede that any features of the claims are obvious. **If the Examiner rejects the claims on anything other than a cited reference, it is hereby explicitly requested that the Examiner set forth in an affidavit the**

personal knowledge upon which such a rejection is based and that the Examiner make such affidavit of record. Applicant will need such information if Applicant is to be given a full and fair opportunity to respond and appeal any new or repeated rejection as may be necessary.

V. Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully submits that the pending claims are in condition for allowance. Accordingly, Applicant requests that the Examiner pass this application to issue.

If there are any outstanding issues which need to be resolved to place the application in condition for allowance the Examiner is invited to contact Applicant's undersigned representative by phone to discuss and hopefully resolve said issues. To the extent necessary, a petition for extension of time under 37 C.F.R. 1.136 is hereby made, the fee for which should be charged to Patent Office deposit account number 07-2347

Respectfully submitted,

Date: April 22, 2005

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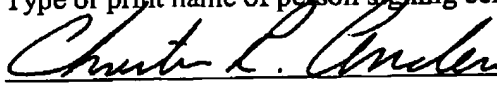

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